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X3T10.1/95a175r1

Accredited Standards Committee
X3, Information Processing Systems

Doc: X3T10.1/95a175r1
Date: February 27, 1996
Project: X3T10.1/0989
Ref Doc.: SSA-TL1 rev 9
Reply to: Rick Born

To: X3T10.1 Membership
From: Rick Born

Subject: Buffer Threshold in 20/40 MBytes Webs Proposal

PROPOSAL

Modify clause 8.1 of SSA-TL2 rev 0.

Essence of Change:

Clause 8.1 states that Dual-port nodes must use a cut-through router to ensure good performance in all applications. When the two ports of a Dual-port node are not running at the same speed, cut-through routing from the slower port to the faster port will cause a large number of NULs to be sent. During the time that these NULs were being sent, another frame could be originated thereby utilizing the outbound port better. It would be better to delay cutting-through from the lower speed port to the higher speed port until a threshold number of bytes had been received instead of cutting-through immediately.

Specifics of Change:

A theoretical example of this effect would be with a 135-byte frame (1-Control, 1-Path, 1-Channel, 128-data, 4-CRC) being received on a 20 MByte link but being sent on a 40 MByte link. After the first 5 bytes had been received, the outbound begins. Since the outbound is roughly twice as fast as the inbound, approximately 130 NULs would have to be sent due to the speed mismatch. If the outbound waited until 65 bytes were received, no NULs would have to get sent and the trailing FLAG would get received at the same time. In the mean time, the 40 MByte link would have been able to originate up to 130 byte frame without impacting this cut-through frame.

Actual Section Modification:

Under clause 8.1, the fourth paragraph sentence 1 should be worded as follows and a new sentence added following sentence 1 as defined below:

Dual-port nodes shall use a cut-through router when both ports are running at the same speed to ensure good performance in all applications. Dual-port nodes with both ports running at different speeds may want to delay cutting-through from the slower port to the faster port until the faster ports data rate can be met. Switch nodes may also use a cut-through router.

Sincerely,

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